

# THE ARMY SCIENCE AND TECHNOLOGY MASTER PLAN, MARCH 1997

## Proponent

The proponent for this document is the Office of the Assistant Secretary of the Army (RDA).

## Web Site Location

This document may be accessed at <http://www.sarda.army.mil/sard-zt/ASTMP/index.htm>.

## Definition

*DoD Science and Technology program: It is divided into three areas, each designed to bring technology to various stages of maturity. ,*

- ◆ *The Basic Research (6.1) program exploits and identifies technological opportunities and provides an important interface with university and industry research.*
- ◆ *The Applied Research (6.2) program matures technology opportunities and evaluates technical feasibility for increased war-fighting capability.*
- ◆ *The non system-specific Advanced Technology Development (6.3) program demonstrates technologies to speed the transition of matured technology into the system-specific Demonstration/Validation (6.4) program or directly into Engineering and Manufacturing Development (EMD) (6.5).*

*Future Operational Capabilities (FOCs) - Statements of operational capabilities (needs) required for the Army to achieve the vision articulated in TRADOC Pam 525-5, Force XXI Operations and for the Army Medical Department (AMEDD), TRADOC Pam 525-50, Operational Concept for Combat Health Support. FOCs address specific warfighting operational capabilities described in TRADOC approved concepts. FOCs, if fully attained, permit the Army to fulfill the National Military Strategy of winning quickly and decisively, while minimizing casualties.*

*MANPRINT - A comprehensive management and technical program to improve total system (soldier, equipment, and unit) performance by focusing on soldier performance and reliability. This is achieved by the continuous integration of manpower, personnel, training, human engineering, system safety, health hazards, and soldier survivability considerations throughout the materiel life cycle.*

*Science and Technology Objective - To provide guidance to the Science and Technology community, the Army has established a set of 200 Science and Technology Objectives (STOs). A STO states a specific, measurable, major technology advancement to be achieved by a specific fiscal year.*

## Synopsis

The Army Science and Technology Master Plan provides Department of the Army Guidance to all Army science and technology organizations. The Army Science and Technology Master Plan also provides the link between Department of Defense technology planning and the plans of Army major commands, major subordinate commands, and laboratories. This strategic plan for the Army's



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science and technology program is based on the Army leadership's vision of the future Army and available resources. This plan is revised and approved annually by the Secretary of the Army and the Chief of Staff, Army.

The Army Science and Technology Master Plan (ASTMP) is the Army's strategic plan for the science and technology program; it consists of two volumes.

Volume I has these seven chapters:

- ◆ I. Strategy and Overview
- ◆ II. Science and Technology Integration With Army XXI Requirements Determination
- ◆ III. Technology Transition
- ◆ IV. Technology Development
- ◆ V. Basic Research
- ◆ VI. Infrastructure
- ◆ VII. Technology Transfer

Volume II contains annexes that, when combined with the Budget, Program Objective Memorandum (POM), and the Department of the Army Research, Development and Acquisition Plan, constitute the action plan for achieving the Volume I program. These annexes are:

- ◆ Annex A--Science and Technology Objectives (STOs)
- ◆ Annex B--Advanced Technology Demonstrations (ATDs)
- ◆ Annex C--Interaction with Training and Doctrine Command (TRADOC)
- ◆ Annex D--Space, Strategic, and Theater Missile Defense Technologies
- ◆ Annex E--International Armaments Strategy and Near-Term Foreign Opportunities
- ◆ Annex F--U.S. Special Operations Command Technology Overview

The major goals of the Army Combat Health Support (CHS) science and technology program are threefold: first, to prevent illness and injury; second, to sustain optimum military effectiveness; and, third, to treat casualties. The greatest payoff from the investment in CHS science and technology comes from the identification of medical countermeasures that eliminate health hazards. Preventive measures include biomedical technologies, information and materiel to protect the force from infectious disease, environmental injury, health hazards of combat systems, operational stress, and aggressor weapons (i.e., conventional, chemical, biological, or directed energy systems).

The Army medical and biomedical science and technology program is divided into five technology sub-areas: Infectious Diseases of Military Importance; Medical Biological Defense; Medical Chemical Defense; Army Operational Medicine, and Combat Casualty Care. Each sub-area focuses on a specific category of threat to the health and performance of soldiers. The first four technology sub-areas emphasize the prevention of battle and non-battle injury and disease, while the Combat Casualty Care Research Program emphasizes far-forward treatment. Prevention research programs provide both medical material (e.g., vaccines, drugs, and applied medical systems) and biomedical information. Combat Casualty Care provides medical and surgical capabilities tailored to military medical needs for resuscitation, stabilization, evacuation, and treatment of all battle and non-battle casualties. Each technology sub-area has objectives that respond to the National Military Strategy.

## What Does This Mean for Military Public Health?

To adequately perform our preventive medicine mission now and in the future, we must:

- ♦ be aware of the Future Operational Capabilities (FOCs) that are relevant to preventive medicine and how we can assist in achieving these capabilities. These include but are not limited to:
  - ⇒ MD 97-002. Medical Command, Control, Communication, Computers and Intelligence (MC4I),
  - ⇒ MD 97-003. Patient Treatment and Area Support,
  - ⇒ MD 97-004. Combat Health Support in a Nuclear, Biological, Chemical Environment,
  - ⇒ MD 97-007. Preventive Medicine,
  - ⇒ MD 97-009. Combat Stress Control (CSC),
  - ⇒ MD 97-010. Medical Laboratory Support,
  - ⇒ MD 97-011. Dental Service, and
  - ⇒ MD 97-012. Veterinary Services.
- ♦ ensure that an emphasis on soldier considerations is maintained as a high priority in system design; and that system operation, deployment/employment, and maintenance requirements are matched with soldier capabilities, training, and availability. With MANPRINT, Army systems will become increasingly user-centered, reliable, and maintainable, leading to significant reductions in life-cycle costs and increased mission effectiveness;

The following are themes common in other documents on our list.

- ♦ work closely with the research, development, and acquisition communities. We must assist the Army Medical Department (AMEDD) Center and School and other service schools in developing innovative state-of-the-art solutions to address lessons learned and doctrine, training, leader development, organization, materiel, and soldiers (DTLOMS) deficiencies to meet the challenges of Joint Vision 2010;
- ♦ integrate comprehensive, population-based functional and surveillance medical information systems such as: DMSS, DOHRS, DVIS, DEESS, HHA, MIDI, etc.; and
- ♦ optimize the use of technology to obtain, evaluate, and disseminate preventive medicine information.

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